

Statistical Agency Changes in Response to the COVID-19 Pandemic

Interagency Council on Statistical Policy,
Subcommittee on Changes During COVID-19

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Report on ICSP Member Agency Changes Related to COVID-19 and Key Lessons Learned

Executive Summary

The Interagency Council on Statistical Policy (ICSP) coordinates statistical work across the statistical agencies and units of the U.S. government. The Council was established in 1989 and is led by the Chief Statistician of the United States, an executive in the Office of Management and Budget. The Council was expanded from its original 13 agency leads to its current 26 members through the Foundations for Evidence-Based Policymaking Act of 2018. As the expanded group was beginning to identify its priorities, COVID-19 struck. Like businesses and governments worldwide, ICSP agencies had to work quickly to ensure staff safety and determine how best to carry on their missions.

ICSP agencies represent a wide variety of subject matters—from transportation, health, and education to labor, consumer spending, and business activity—and nearly all those areas were affected by the COVID-19 crisis. The pandemic brought with it numerous operational challenges, as well as a heightened need for timely and relevant data on the rapidly changing landscape. As decision-makers pushed for more data, faster, many statistical agencies reevaluated priorities among the elements of data quality, placing greater emphasis on timeliness.

As the ICSP pivoted its monthly meeting schedule to virtual platforms, agenda items quickly turned to the challenges and innovations related to COVID-19. By late spring 2020, the Council agreed to survey all member agencies to gather input on how each had adjusted to the pandemic. Led by staff from the Bureau of Economic Analysis, the Bureau of Labor Statistics, and the U.S. Agency for International Development, the Council developed and administered a survey in August 2020. The survey had the following focus areas:

- Staff and data collection changes
- Post-collection processing and publication changes
- Product innovations

By the close of collection in mid-September, the following 17 agencies provided detailed survey responses:

Bureau of Economic Analysis (BEA)	National Center for Education Statistics (NCES)
Bureau of Justice Statistics (BJS)	National Center for Health Statistics (NCHS)
Bureau of Labor Statistics (BLS)	Nuclear Regulatory Commission
Bureau of Transportation Statistics (BTS)	Social Security Administration, Office of
Census Bureau	Research, Evaluation, and Statistics (ORES)
Department of Housing and Urban	U.S. Agency for International Development
Development	(USAID)
Department of Veterans Affairs	USDA Economic Research Service (ERS)
Environmental Protection Agency (EPA)	USDA National Agricultural Statistics Service
IRS Statistics of Income (SOI)	(NASS)
National Aeronautics and Space Administration	
(NASA)	

What follows are results, including in-depth spotlights of agency activities, that underscore the resilience of the statistical agencies and the impressive work of their staffs. From an analysis of the responses, it is clear that the pandemic has resulted in innovations that will continue and will propel the U.S. statistical system to even greater success in the future.

While this report paints a vibrant picture of the government’s pandemic response, it does not attempt to provide an exhaustive inventory of what statistical agencies are doing related to the coronavirus crisis.¹ In addition, as with any survey, respondents can interpret questions in different ways, and the choice of question wording impacts the responses. The analysis and conclusions in this report are limited to the information gathered through the survey and directed follow-ups with respondents.

An overview of the responses and key takeaways for the three main parts of the survey, a list of acknowledgments, and a timeline of major project milestones are included below. Additional detail and analysis on the survey results is provided in the subsequent sections of this report.

Section A. Staff and Data Collection Changes

Purpose. The goal of this section is to highlight impacts to agency operations, including international operations, effects of remote communication, and hurdles encountered while moving to maximum telework.

Results summary. Overall, the results indicate that, while some obstacles arose, there was mild difficulty adjusting to maximum telework and finding workarounds for operational issues.

Key takeaways. (1) *Agencies are more resilient than they thought.* In some way, whether large or small, the pandemic turned all statistical employees into the leaders they needed to be and, instead of dividing agencies, it reinforced the feeling that staff members are all human, and they are stronger together. (2) *Agencies can adapt quickly when necessary.* The U.S. federal statistical system is large, decentralized, and responsible for some incredibly complex and critical functions; however, agencies moved very nimbly to address urgent issues and prioritize those with longer horizons. (3) *As a population, statistical agencies rapidly learned to perform and communicate remotely.* ICSP members learned to communicate better by WebEx, Zoom, Google Meet, and other remote platforms, as well as honed the skills and etiquette connected with those venues. Agency employees quickly made up for the awkwardness remote communication sometimes creates and learned to give each other latitude in meetings, whether by smiling at a child who wandered onscreen or being forgiving while colleagues struggled through their first “present slides” moments.

¹ For example, while not specifically highlighted in the survey results, the U.S. Census Bureau made major changes related to the 2020 Census. In light of the COVID-19 outbreak, the Census Bureau adjusted 2020 Census operations in order to: (1) protect the health and safety of the American public and Census Bureau employees; (2) implement guidance from federal, state, and local authorities regarding COVID-19; and (3) ensure a complete and accurate count for all communities. For more information, please visit www.2020census.gov.

Section B. Post-collection Processing and Publication Changes

Purpose. The goal of this section is to call out areas of survey operations that may have been affected by COVID-19, including data collection activities, the availability of source data, use of alternative data, sampling, estimation, data adjustments, outlier detection and treatment, publication, and dissemination vehicles.

Results summary. Six agencies reported making major changes in one or more survey programs. Most agencies were able to make changes that they considered to be successful at addressing COVID-19 impacts on their surveys. The six respondents made major methodological changes, and some agencies changed or added content to their release materials and made changes to the production of publications. Most agencies formally documented changes in either estimation or data collection.

Key takeaways. (1) *One shock spurs a multitude of responses.* Just as no two sectors, industries, or states have been impacted by the pandemic in the same way, the effects on U.S. statistical agencies and their responses varied greatly depending on agencies' unique objectives, structures, and programmatic constraints. (2) *Flexibility fosters positive results.* ICSP members found innovative ways to adapt their estimation methods and publication procedures. Thanks to the agility and pioneering spirit of the cadres of dedicated employees supporting the U.S. statistical system, most pandemic-related changes were deemed to be successful or very successful. (3) *Documentation maps out the path to success.* Documentation is a critical step in implementing successful changes. Agencies leveraged a wide variety of mechanisms for recording the impacts of COVID-19 and the related statistical changes. This wealth of information provides a rich historical catalogue for guiding future statistical decisions.

Section C. Product Innovations

Purpose. The goal of this section is to break out and categorize examples of innovations in developing new products across the statistical system, such as timelier or more frequent data releases, new surveys, new products based on alternative data sources, and adapted estimation methods.

Results summary. About 80 percent of survey respondents indicated that they developed product innovations related to COVID-19. The most common innovations included webpages devoted to the pandemic, new output like tables and graphs, research papers, and new questions added to existing surveys. Most innovations were developed through existing offices or structures or through new internal working groups; however, partnerships with other agencies, with other operating divisions, and with international or local teams were also critical to standing up new products and services. In addition, agencies intend to continue most of these innovations, even if only for an uncertain or indefinite amount of time.

Key takeaways. (1) *Crisis is an opportunity.* The pandemic presented statistical agencies with unparalleled circumstances through which to develop new products and services in a rapid-fire environment with accelerated feedback loops. (2) *Communication impacts everything.* The uncertainties of the pandemic heightened the need for timely, transparent communication around the government's statistical offerings. (3) *Get creative with resources.* Statistical agencies are casting a wide net for pulling in the resources they need to continue to deliver timely, relevant, and high-quality products and services during the ongoing crisis.

Acknowledgments

Survey respondents. Thank you to the 17 ICSP members and their agency contacts who filled out the survey and addressed follow-up questions from subcommittee members. Without the invaluable input of these organizations, this report would not have been possible.

Report coordination. Thank you to Alyssa Holdren of BEA who served as the report coordinator. She developed the framework for reporting the results and edited the report for consistency and clarity.

Survey and cognitive experts. Thank you to Jennifer Hunter Childs and Alda Rivas of the Census Bureau survey team, as well as William Mockovak, a BLS cognitive review expert, who ensured that the survey was presented in an easy-to-understand and navigate format, that the survey was targeted to collect the most relevant information, and that survey responses were provided to the subcommittees in a secure, easily accessible file.

Publications staff. Thank you to Joseph Meisenheimer and the BLS publications staff who compiled and harmonized the charts for this report.

Subcommittee members. Thank you to the members of the three subcommittees and their colleagues who developed the survey, analyzed the responses, and assembled the report of the results.

Staff and data collection changes	Post-collection processing and publication changes	Product innovations
Megan Asdorian (USAID) (chair)	Bill Wiatrowski (BLS) (chair)	Mary Bohman (BEA) (chair)
Vivian Ranson (USAID)	Jeremy Oreper (BLS)	Dennis Fixler (BEA)
	Joe Piacentini (BLS)	Chris Grubb (State Department)
		Virginia Harris (NASS)
		Alyssa Holdren (BEA)
		Jennifer Hunter Childs (Census Bureau)
		Brian Moyer (NCHS)
		Rolf Schmitt (BTS)

Project Timeline

April 2020: The ICSP established three subcommittees tasked with collecting feedback on the pandemic’s effects on agency operations in the areas of staff and data collection changes, post-collection processing and publication changes, and product innovations.

April–June: The subcommittees developed group charters, outlined plans and priorities, and drafted preliminary survey questions.

July–August: Ultimately, the subcommittees merged into one group with an overarching purpose of gathering information on the impacts of COVID-19. They combined the questions from the three sections into one survey; coordinated with the team of survey experts from the Census Bureau to upload the questions into Qualtrics—an online survey software—and test survey functionality; consulted with BLS cognitive experts to review the survey for consistency, logic, and flow; and finalized the survey for posting.

September: The survey was open for responses from August 26–September 28. Once the survey was closed, the Census survey team compiled the results and sent them to the chairs of the subcommittees via Kiteworks, a secure messaging platform.

October–December: The subcommittees analyzed the survey responses and drafted a report of the results, coordinating with agency contacts to clarify responses, gain approval for specific examples used throughout the report, and address any confidentiality concerns. Subcommittee chairs presented initial results at the November ICSP meeting.

December 2020: The subcommittees provided the draft report to ICSP members for comment, incorporated feedback, and released the final report on agency changes related to COVID-19.

Section A: Staff and Data Collection Changes

Summary

This section presents information on the extent to which the pandemic has impacted ICSP member agencies' ability to operate, concentrating on effects related to staff transitioning to full telework and the core activity of collecting mission-critical data—whether used to perform statistical operations, produce statistical datasets, make management decisions, help inform policy, or formulate programmatic decisions. Highlights of this section include: lessons learned, an overview of survey results, summaries of more detailed responses, and specific agency spotlights.

Key Takeaways

Agencies are more resilient than they thought. In early 2020, agencies moved from the status of a public health emergency of international concern (PHEIC) to a global pandemic and began experiencing the operational and emotional effects of lockdown and remote telework. In the beginning, agencies were uncertain how well they would be able to adjust and find workarounds for some of their most critical responsibilities. Many ICSP members had or still have people in the field that needed to be kept safe, and for some agencies, that includes overseas locations. As government entities, statistical agencies needed to ensure that they could still perform critical functions for the public and, as humans, agency staffs needed to understand how to deal with a workforce experiencing change, and often grief, on a massive scale. What could have been a failure of huge proportions turned into a real-time exercise in resilience and survival. In some way, whether large or small, the pandemic turned all statistical employees into the leaders they needed to be and, instead of dividing agencies, it reinforced the feeling that staff members are all human, and they are stronger together.

Agencies can adapt quickly when necessary. The U.S. federal statistical system is large, decentralized, and responsible for some incredibly complex and critical functions; however, agencies moved very nimbly to address urgent issues and prioritize those with longer horizons. Some ICSP members were able to rapidly reprogram funds to address critical COVID-19 objectives instead of using them to conduct normal, but not critical, activities. Some were able to leverage accelerated contracting mechanisms to put surge support in place or draw from existing pools of qualified candidates, for example, retirees who were willing to re-engage on a temporary basis or Peace Corps volunteers returning from the field. Many agencies stood up websites and dashboards to reflect real-time status and trends, so that they could respond appropriately. And when faced with barriers to normal data collection activities, agencies found appropriate proxy data and collection alternatives.

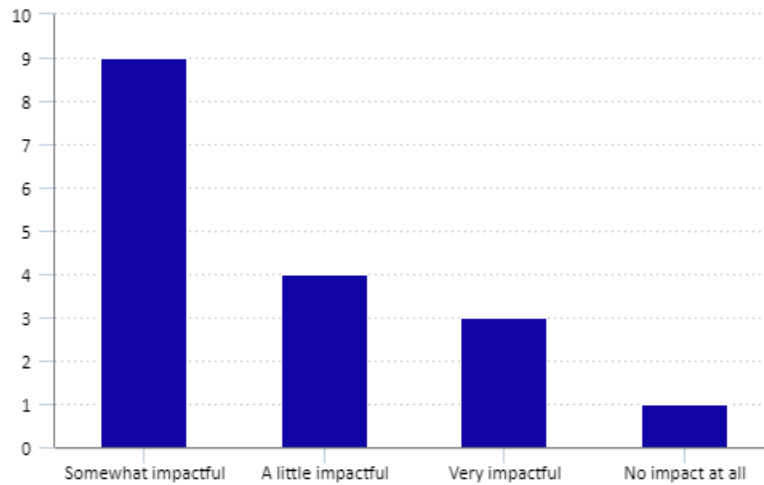
As a population, statistical agencies rapidly learned to perform and communicate remotely. One of the main staff concerns moving into full-time telework was how “artificial” communication and remote platforms would affect the quality or tone of interactions. Many employees were trepidatious about the loss of physical cues and information gained from in-person meetings and whether they would lose the ability to truly connect with each other. Happily, the results showed that this did not seem to be as much of a problem as some anticipated. ICSP members learned to communicate better by WebEx, Zoom, Google Meet, and other remote platforms, as well as honed the skills and etiquette connected with those venues. Managers avoided the human temptation to micromanage as a means to find control in times of great uncertainty. Agency employees quickly made up for the awkwardness remote communication sometimes creates and learned to give each other latitude in remote meetings, whether

by smiling at a child who wandered onscreen or being forgiving while colleagues struggled through their first “present slides” moments.

Survey Response Overview

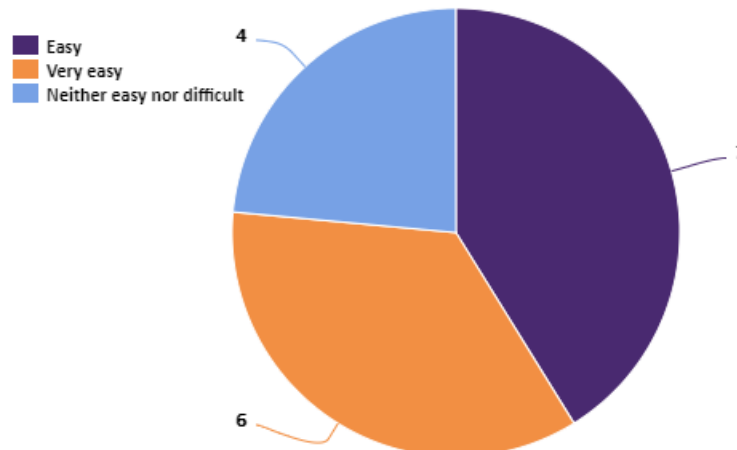
Pandemic impact on ability to capture, process, and release data. About half of the survey respondents (9 out of 17) indicated that the pandemic was somewhat impactful on their agencies’ ability to capture, process, and release data. For 3 agencies the pandemic was very impactful, and for the other 5 agencies, it was a little impactful or had no impact at all.

How much of an impact did the pandemic have on your agency's ability to capture, process, and release data?



Ease of transition to remote work. While agencies generally had a relatively easy time transitioning their workforces to full telework, about two-thirds of respondents indicated that some parts of their workforces had difficulty making this transition. For a summary of the difficulties that agencies faced in transitioning certain parts of their workforces to telework, see Table A1.

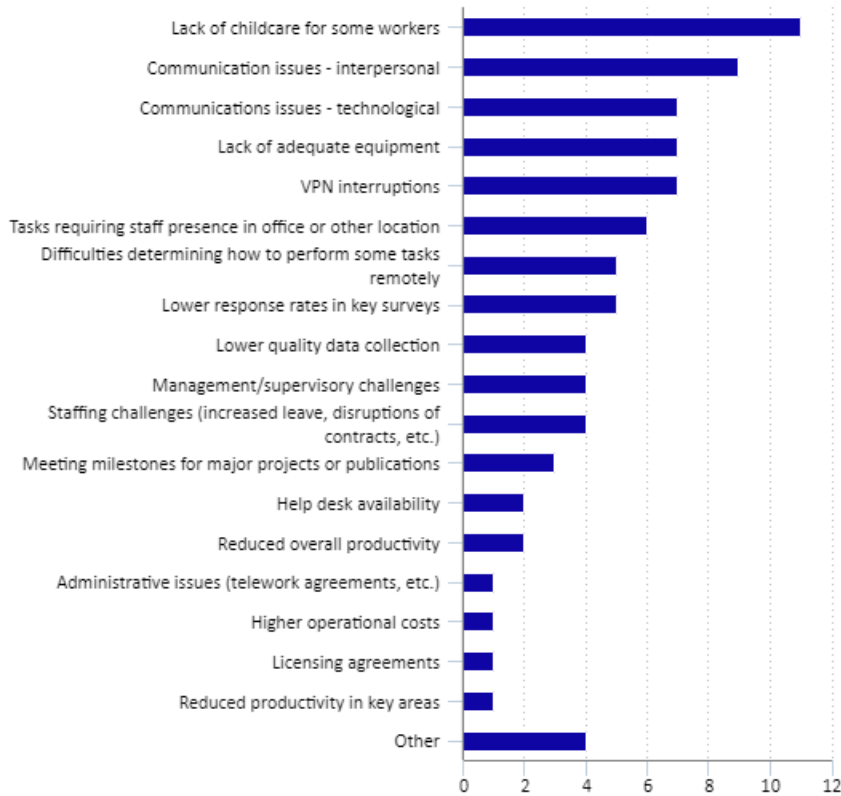
In general, how easy or difficult was it for your workforce to transition to full telework?



Benefits of telework. Respondents listed many benefits of switching to maximum telework and conducting operations remotely. Results fell into five categories: enhanced IT, telework, and remote communications skills; innovative and creative solutions; better work-life balance; productivity and organization; and teamwork, resilience, and flexibility. For more information, see Table A2.

Greatest challenges related to telework. Of the 17 respondents, only one agency indicated that they experienced no challenges, and one agency responded that they experienced every challenge listed. Childcare was noted as the most severe challenge that agencies experienced as they moved to full telework (11 responses), followed by interpersonal communications issues (9 responses) and then technological communications issues, lack of adequate equipment, and VPN interruptions (each with 7 responses). For childcare, due to the nature of COVID-19, simply hiring additional help or home services was mostly not an option. Family members overwhelmingly felt the pressure of caring for others while trying to balance an increased workload. For a summary of the solutions agencies developed to address their greatest challenges, see Table A3.

What were the most severe challenges that you experienced as you moved to full telework? (Choose all that apply)

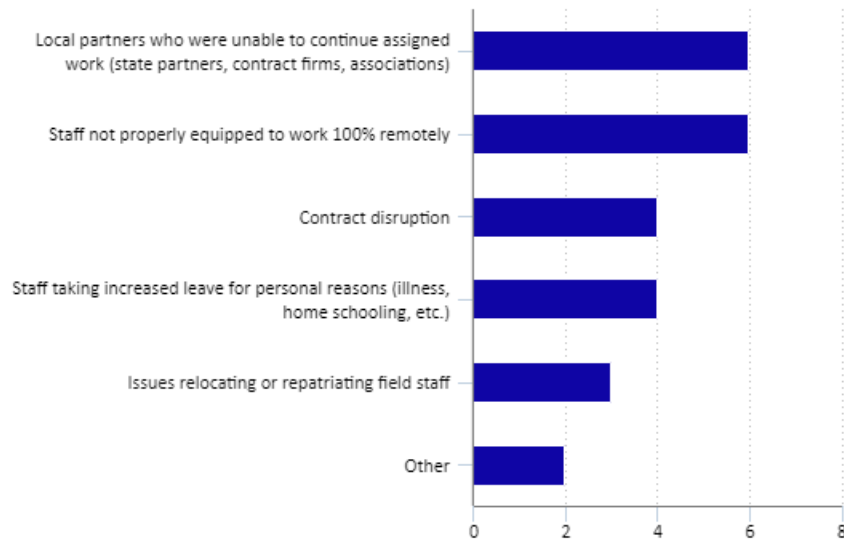


Primary response agencies. Three agencies identified themselves as primary response agencies—the National Center for Health Statistics, the Environmental Protection Agency, and the United States Agency for International Development (USAID); however, there are many other primary response agencies, like the Federal Emergency Management Agency and the Centers for Disease Control and Prevention, that were not included as part of this survey.

Some of these agencies temporarily shifted their operational focus from their core missions to pandemic response. For example, for USAID, this shift involved using surge personnel, re-programming existing development funding to instead fund pandemic response activities, and rapidly programming emergency supplemental funds granted by Congress. For this reason, primary response agencies may have experienced more delays in conducting regular programs and producing regular products on schedule. For more information on the impacts on primary response agencies, see Table A4.

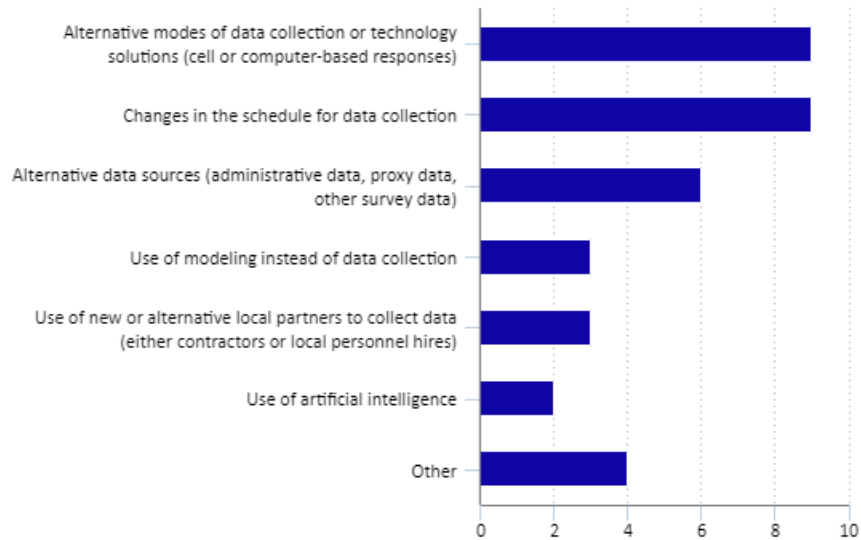
Staffing disruptions. Approximately 75 percent of respondents reported no staffing disruptions. For the rest, top disruptions were with local partners who were unable to continue assigned work and staff not properly equipped to work 100 percent remotely. In addition to the provided options, agencies noted issues with credential renewals, equipment failures, and contacting employees who did not report in.

Did your agency experience any of the following staffing disruptions due to the pandemic? (Choose all that apply)



Alternative data collection methods. The most common changes to planned or existing data collection methods were alternative modes of data collection or technology solutions and changes in schedules for data collection (9 responses each).

Did your agency use any of the following in place of planned or existing data collection methods during the pandemic?

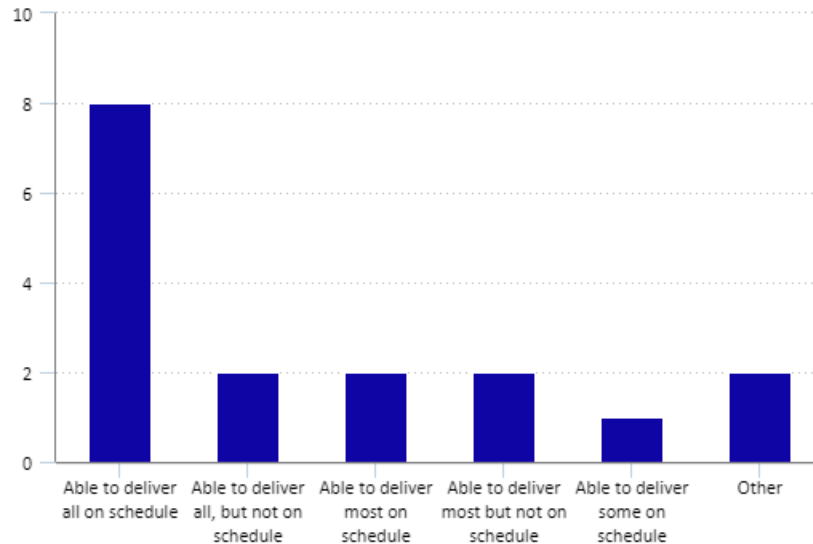


In addition to the options specifically listed in the survey, respondents noted a variety of other workarounds to traditional data collection methods, including the following:

- Data collected by large firms
- Liberal granting of filing extensions for survey respondents
- Modified language in respondent communications to encourage electronic filing and offer suggestions to help respondents experiencing difficulties
- Shifting staff between units to make extra phone calls for surveys experiencing low response
- Developing procedures for processing faxed and mailed survey responses remotely
- Virtual field testing of new survey questions
- Strengthening partnerships
- Changing methods for preliminary estimates
- Altering data collection and non-response follow-up schedules

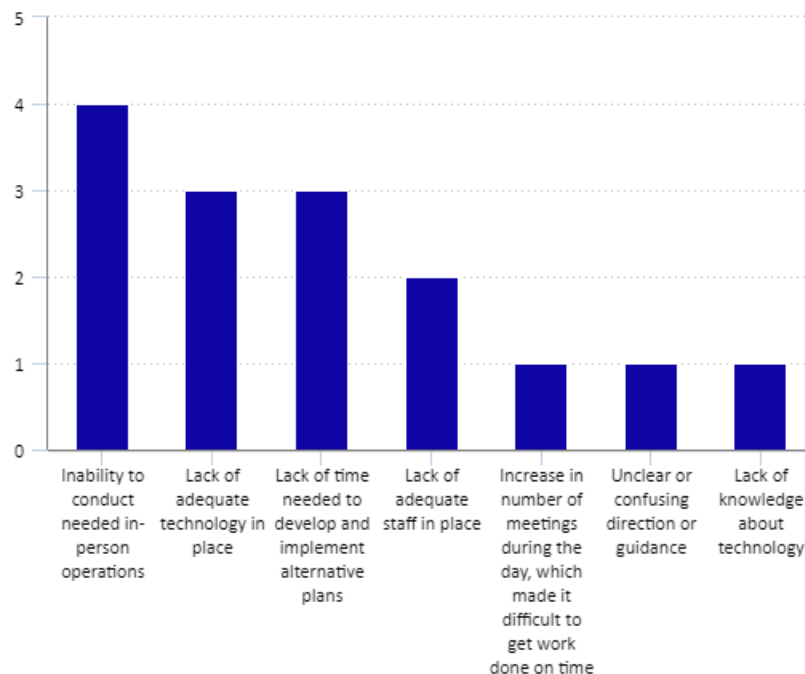
Delivery of core products/deliverables. About 80 percent of respondents (14 out of 17) indicated that they were able to release most or all of their products, with a majority being on schedule (10 out of 14). One agency delivered some products on schedule. One agency responded that activities were limited to data collection only, and the other agency noted that most of the deliverables for 2020 were on track but expected that data delays would significantly impact products in 2021.

Which of the following statements best describes your agency's ability to deliver core products/deliverables during the pandemic?



Factors negatively impacting delivery schedules. Seven respondents noted negative effects on their delivery schedules. The most common factor was the inability to conduct needed in-person operations (4 responses).

Which of the following negatively impacted your delivery schedules? (Choose all that apply)



Survey Response Details

This section provides summaries for more detailed responses to specific survey questions, as well as “Impact Spotlights” for two agencies—the Bureau of Transportation Statistics and the United States Agency for International Development—that demonstrate some of the ways that ICSP members have tackled the staff and data collection challenges of the pandemic.

Difficulties in transitioning to full telework. Although there were many reasons agencies cited for why certain parts of their workforces had difficulties in transitioning to 100 percent remote work, responses fell into the four general categories shown in Table A1.

Table A1. Summary of Difficulties in Transitioning Certain Parts of Workforce to Full Telework

Category	Staff	Description
Need to be physically present to perform in-person activities	Customer service staff Call center employees Budget offices Printing and mail staff New hires IT professionals Field workers Retirement services staff Facilities maintenance personnel	Duties that could not be done remotely, like processing lab samples, testing vehicles, scanning mail, printing publications, collecting “wet” signatures, traveling for job requirements, collecting data, issuing IDs, testing and deploying hardware Activities that technically could be done remotely but were viewed as inappropriate or especially difficult, such as performance reviews and new hire onboarding
Handling confidential and classified information	Data collection staff Supporting subject matter experts	Manipulating personally identifiable information (PII) and other protected data; handling classified information in secured locations; using secure equipment, accounts, or programs
Not trained or ready for remote work	Contract data collection staff Technical experts New hires	Never teleworked before, not used to working remotely, not trained on remote work, lacking IT skills, missing the necessary infrastructure and equipment, software difficulties
Significant shift in work burden	Potentially all types of positions	Additional family responsibilities, too many meetings, some handled new working environment better than others

Benefits of telework. Respondents indicated that there were a variety of benefits associated with the switch to maximum telework. The responses fell into the five categories shown in Table A2.

Table A2. Summary of Benefits of Full Telework

Category	Description
Enhanced IT, telework, and remote communications skills	Expanded telework policies, a greater understanding of what can be accomplished in a telework environment, successful remote execution of most business processes, more seamless connections between multiple locations, more deliberate and effective communications, deploying and learning to use new and improved communications technologies, increased remote training capacity, decreased reliance on “paper” processes, greater flexibilities in data collection and processing while maintaining confidentiality restrictions
Innovative and creative solutions	More productive and innovative approach to developing and disseminating data products; more creativity in holding meetings, hearings, and briefings; developing new ways to accomplish activities that required travel; opportunity for full-scale evaluation and testing of emergency preparedness protocols; sped up the adoption of digital collaboration tools
Better work-life balance	More flexible hours and often more time dedicated to work, ability to join meetings during extended hours that would have been spent commuting, fewer meetings, more time for uninterrupted work, postponed retirements, increased physical well-being, allowed people to take care of family while still fulfilling work responsibilities, more time with family, greater awareness of the need for work-life balance and increased willingness to accommodate this balance, drop in leave requests, seeing the sunshine
Productivity and organization	Clearer purpose for meetings, notes being taken routinely and shared with right audiences, better meeting participation, easier to focus on tasks requiring concentration, less disruption from open office spaces, more accessibility for internal meetings, workforce is more outcome-oriented, staff communicate more transparently with supervisors regarding deliverables, more efficient and simultaneous clearances, more accurate documentation, increased late-day energy from the home environment
Teamwork, resilience, and flexibility	Knowledge that workforce is quite flexible and adaptable, feeling that leadership has staffs’ best interests at heart, re-validating that employees can work well under stress, encouraged that the agency was able to continue its mission with little to no disruption, increased appreciation for others’ work, more frequent meetings for information sharing and morale checks, reviewing and reinforcing best practices, colleagues making an extra effort to remain engaged, increased collaboration, easier access to co-workers

Solutions to telework challenges. Specific responses on how agencies addressed their greatest challenges related to teleworking fell into the five categories shown in Table A3.

Table A3. Summary of Solutions to Telework Challenges

Category	Solution
Lack of childcare/family care	Maximum flexibility in scheduling duty hours, additional leave categories to provide more leave time, flexibility in performing the number of work hours
Internal personal communications issues	Rapid adoption of remote conferencing and digital collaboration technologies, meeting presenters and participants quickly learned new skills, sending periodic updates to all staff about major agency items, creating pandemic intranet pages with resources for staff and the latest operational information, using a pilot program to set up field workers for telework who were not previously eligible, coordinating with IT and management to oversee workers in remote environment
Lack of adequate equipment	Equipment flexibilities and options for employees who were not equipped to telework (like allowing employees to use their personal laptops)
VPN interruptions/lack of secure and stable conferencing tools	New processes for handling protected data (for example, earlier data “scrubbing” and deploying new platforms to allow secure access), expanded IT services to allow additional simultaneous VPN connections
Tasks requiring physical presence	Limiting the number of people who can be physically present at a facility to comply with public health guidelines, designating a limited number of staff that may access facilities, using contact tracing systems, increased cleaning protocols, limiting time in facilities, moved in-person data collections to remote collection only (but with lower response rates)

Primary response agencies. The three respondents who identified as being from primary response agencies provided details on major impacts to their normal operations related to COVID-19 and rated the success of those responses. These results are shown in Table A4.

Table A4. Impacts on Primary Response Agencies

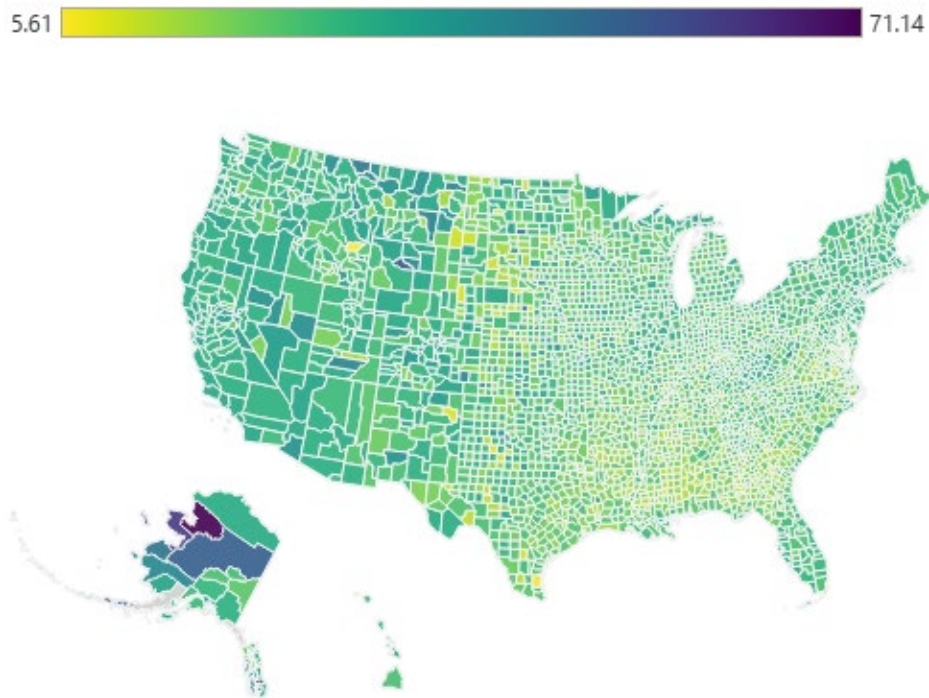
Agency	Impact 1	Rating	Impact 2	Rating	Impact 3	Rating
National Center for Health Statistics	Modifying data collection (for example, moving from in-person to phone interviews); for select physical examination surveys, halted data collection	Extremely successful	Repurposing, expanding, and creating surveys to address key public-health-related issues associated with the pandemic	Extremely successful	Reallocating resources, especially given the requirement to participate directly in the pandemic response of the Department of Health and Human Services	Very successful
Environmental Protection Agency (EPA)	Reviewing and registering antimicrobial pesticides, which include disinfectants for use on pathogens like SARS-CoV-2, the novel human coronavirus that causes COVID-19	Extremely successful	Developing interim EPA COVID-19 Health and Safety Guidelines for Field Activities to provide an integrated set of safety and health guidance for timely and consistent information for employees conducting field activities to reduce risk of COVID-19 exposure to EPA field staff, regulated entities, and the public	Extremely successful	Holding public hearings and meetings virtually	Very successful
United States Agency for International Development	Rapidly reprogramming and redirecting funds to respond to COVID-19	Very successful	Inability to use certain common technology platforms that are used by partners due to security risks	Very successful	Redirecting staff attention from normal operations to COVID-19 response activities	Very successful

**Impact Spotlight: Bureau of Transportation Statistics (BTS)
COVID-19 Data Collection and Estimation Adaptations**

For BTS, data collection and staffing challenges were less severe than for most agencies because its big data collections are conducted by the Census Bureau. The in-person data collections involve a group of nine staff who process monthly submissions of data with few confidentiality restrictions from commercial airlines and a similar number of staff and contractors who deal with close calls data. Since BTS already had a liberal telework policy, the shift to working at home was relatively easy.

The biggest adaptations related to COVID-19 were: (1) a shift to producing daily and weekly products based on data from mobile devices, turnstile counts from major transit properties, and similar sources, and (2) the replacement of extrapolated historical trends with other methods for preliminary estimates of current conditions.

**Daily Travel During the COVID-19 Public Health Emergency:
Average Percent of People Staying at Home by County,
November 2020**



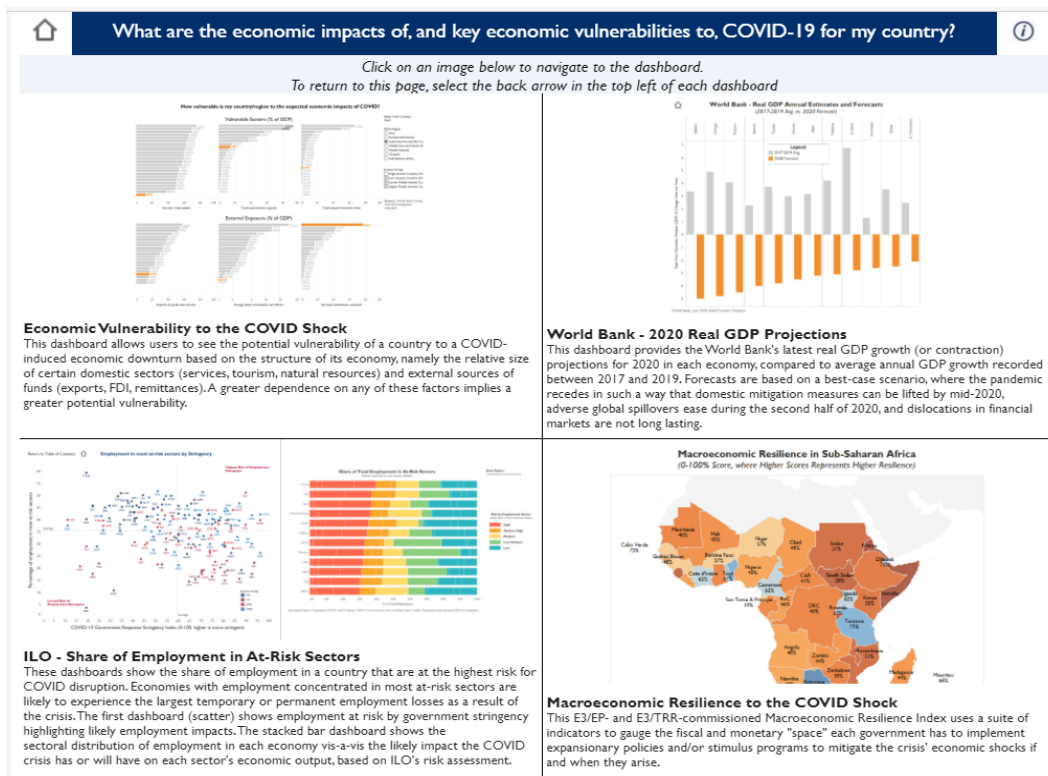
Source. U.S. Department of Transportation, Bureau of Transportation Statistics. Chart available at: www.bts.gov/map-activity-state-or-county/.

Impact Spotlight: United States Agency for International Development (USAID) COVID-19 Analytics Dashboard

Description. COVID-19 spurred an extreme need in the international development community for timely data on the pandemic and its country-level impacts. In response, a growing number of COVID-related data resources emerged and continues to evolve to this day, but it is not always easy to understand the differences in sources or their relevance to specific analytical questions. USAID resourced a COVID Analytics Team, originally part of its COVID-19 Task Force, that curates an evolving set of data resources to help USAID staff assess the first- and second-order impacts of COVID-19 at the country and regional levels.

Lesson Learned—A Need for Demonstrating Data Analysis. In addition to a curated list of COVID-related data resources and a dashboard displaying country-level disease burden alongside relevant contextual and USAID programmatic information, the COVID Analytics Team realized that many USAID staff lacked capacity or bandwidth to identify relevant data and analyze them for insights. Based on feedback from overseas missions, the team built an additional resource called the Master COVID-19 Accompaniment Tool for Analysis (MCDATA), a suite of Tableau-based dashboards that helps answer key thematic questions about the first- and second-order impacts of the COVID-19 crisis (for example, disease projections, mobility, country coping capacity, economic impacts, civil disorder, gender impacts, etc.). This resource enabled USAID staff to more quickly assess impacts of the COVID-19 crisis in specific countries, as well as to better articulate areas of further analytical need.

The following graphic contains sample views from MCDATA on COVID-19 impacts. These dashboards pull from multiple third-party sources.



Section B. Post-Collection Processing and Publication Changes

Summary

This section outlines the impacts on statistical methods and operations related to COVID-19, the main lessons learned, summaries of the results by agency, and specific agency examples. Survey respondents reported on changes in the following areas:

- *Estimate production.* Changes in how data are stored, transmitted, accessed, secured, processed, and tabulated
- *Estimation methods.* Changes in nonresponse adjustment, seasonal adjustment, outlier detection and treatment, modeling and projections, use of alternative data, and tracking or measurement of estimate quality
- *Statistical release production and publication.* Changes in how releases are produced, reviewed, and cleared; how they are secured prior to publication; and how they are published and disseminated
- *Statistical release content.* Changes in the content of news releases or accompanying material, such as substantial suppression of unavailable estimates; the inclusion of special explanations or interpretations of statistics; and the addition of notices of changes to data collection, estimation procedures, or responses rates
- *Documentation.* Formal steps taken to document changes in data collection or estimation procedures

Respondents were asked to provide one or two examples that resulted in the greatest changes and to explain what prompted the changes, what changes were made, and how successful was each change.

Key Takeaways

One shock spurs a multitude of responses. Just as no two sectors, industries, or states have been impacted by the pandemic in the same way, the effects on U.S. statistical agencies and their responses varied greatly depending on agencies' unique objectives, structures, and programmatic constraints. While all respondents indicated that they made major methodological changes, the substance of those changes covered a wide spectrum, everything from producing timelier datasets, to adjusting standard estimation processes, and finding alternatives to in-person data collection. Despite these differences, all agencies had one thing in common—an overarching drive to uphold their missions and continue to provide exemplary service to the American public despite the challenging and unprecedented times.

Flexibility fosters positive results. ICSP members found innovative ways to adapt their estimation methods and publication procedures. Agencies harnessed alternative data sources, deployed new technologies, modified calculations and models, and partnered with stakeholders to introduce changes quickly and effectively. Thanks to the agility and pioneering spirit of the cadres of dedicated employees supporting the U.S. statistical system, most pandemic-related changes were deemed to be successful or very successful.

Documentation maps out the path to success. Documentation is a critical step in implementing successful changes. Agencies leveraged a wide variety of mechanisms for recording the impacts of COVID-19 and the related statistical changes. Internally, ICSP members updated and expanded

operations manuals and maintained detailed logs of changes. For the public, agencies published extensive explanations of new statistics and changes in methods; provided guidance on how to interpret data impacts (for example, explaining the explosion of remote learning in the context of education statistics); and released FAQs, special analytical tables, and technical notes. This wealth of information provides a rich historical catalog for guiding future statistical decisions.

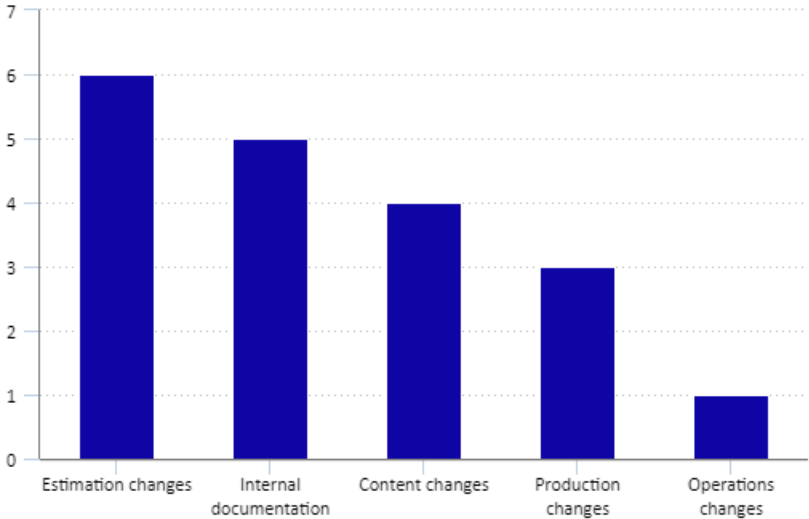
Survey Response Overview

Six agencies responded that they made major processing or publication changes in one or more programs:

- Bureau of Economic Analysis (BEA)
- Bureau of Labor Statistics (BLS)
- Bureau of Transportation Statistics (BTS)
- National Center for Education Statistics (NCES)
- National Center for Health Statistics (NCHS)
- United States Agency for International Development (USAID)

Each of the six respondent agencies indicated that they made major methodological changes. Some agencies changed or added content to their release materials, and some agencies made changes to the production of publications. Only one agency made operational changes in how estimates are produced. Most agencies (5 out of 6) formally documented their changes in either estimation or data collection.

Did your agency make major changes in any of the following activities?



Most agencies (5 out of 6) indicated that they were able to make processing and publication changes that they considered to be successful or very successful at addressing COVID-19 impacts.

Survey Response Details

The next section provides information from the six respondent agencies. Table B1 includes highlights of the changes, followed by descriptions of the specific results. In addition, three “Methodology Spotlights”—from the National Center for Education Statistics, the Bureau of Labor Statistics, and the National Center for Health Statistics—draw attention to how changes were implemented across the statistical system.

Note. In reviewing the detailed responses, it became apparent that agencies interpreted some questions differently. For example, while BEA did not indicate formal changes to their documentation processes, their discussion of information placed on their website and elsewhere made it clear that documentation was prepared. Other agencies may not have considered that their activities rose to the level of methodological changes, but discussions across ICSP members indicated that all agencies were disrupted, and nearly all had to make changes to continue production. This report is limited to highlights provided in the survey.

Table B1. Highlights of Processing and Publication Changes Due to COVID-19

Agency	Process	Content
Bureau of Economic Analysis	New data sources	New data sources allowed for more timely information on changes in consumer spending patterns
Bureau of Labor Statistics	Change in estimation procedures	Adjusted employment and hours estimates to reflect rapid changes in labor force
Bureau of Transportation Statistics	New data sources	New products with daily and weekly release cycles
National Center for Education Statistics	Data collection interrupted by school closings	Changes due to move to remote learning
National Center for Health Statistics	Move to telephone interviews	Incorporate effects of COVID-19 deaths and infections into estimates
U.S. Agency for International Development	Use of alternatives to in-person data collection; use of proxies	New model-based estimates of the impact of the pandemic

Bureau of Economic Analysis (BEA). Changes at BEA were primarily driven by the large shift in consumer spending patterns starting in March and the need to continue to produce timely and accurate data that allow users to better understand changes in the economy. New data on individuals’ daily credit card transactions were acquired and integrated with traditional quarterly data in order to replace monthly values based on linear trend extrapolation. BEA provided detailed explanations of its statistics in relation to the pandemic and included notices of changes to estimation procedures in its release materials. In addition, BEA established a central landing page on its website that collates and centralizes information and analytical materials related to COVID-19.

Bureau of Labor Statistics (BLS). Changes at BLS were primarily driven by the rapid decline in employment that occurred between the March and April reference weeks. Both the calculation of hours worked in the productivity estimates and the estimate of the adjustment to employment due to business birth and deaths were changed. BLS provided additional information about the impact of the pandemic on its data, including adding details on collection changes and maintaining a running log of

changes. All staff moved to telework, so changes were made to allow for full estimation review to be conducted off-site through secure video.

Bureau of Transportation Statistics (BTS). Changes at BTS were primarily driven by the break from historic trends in the data, especially for air travel, and the need to inform Department of Transportation leadership and the public of dramatic shifts in the data. Estimates of airline travel were discontinued and replaced with preliminary observations from large respondents. New sources of more timely data were added, and products were developed with weekly or daily release cycles. Finally, BTS adopted new procedures for processing data while on telework and developed and updated operations manuals to cover the changes.

National Center for Education Statistics (NCES). Changes at NCES were primarily driven by the outsized impact of COVID-19 on school operations. Population estimates were adjusted, changes to calculations and models were introduced, and dataset timespans were truncated and noted, as appropriate. NCES documented all changes and caveats, including issuing special guidance on the estimation impacts of remote learning.

National Center for Health Statistics (NCHS). Changes at NCHS were primarily driven by the need to rapidly incorporate the effects of COVID-19 deaths and infections into the estimates being produced. This need was fulfilled by a combination of earlier access to data from states on provisional death counts, transitioning to phone interviews, additional data review, accelerated news releases, new data presentations, and a new revisions process. In addition, NCHS prepared full, formal documentation of the changes, including extensive explanations of the new statistics for data users.

U.S. Agency for International Development (USAID). Changes at USAID were primarily driven by the inability to travel and conduct in-person data collection, paired with the need to provide timely COVID-19 related information. USAID shifted to virtual interviews, electronic or mobile phone data collection, and remote reporting. The agency began exploring the use of proxies to estimate essential indicators and started working on a centralized platform of indicators and partner data to project the impacts and outcomes of COVID-19 and the pandemic response. In addition, staff worked with partners in academia and private industry to model first-order, secondary, and tertiary effects of COVID-19 on programming, as well as on health systems resilience and health outcomes. Some projects were put on hold if alternative methodologies could not be put in place.

Note. USAID was the one agency that did not indicate that its changes were successful or very successful. A major challenge for USAID was relying on in-person data collection, which became nearly impossible in many circumstances. This reliance required changes that needed considerable flexibilities (for example, alternative delivery schedules, new data sources, extended timelines, contractual modifications, and technological adjustments), leading to greater barriers to successful adaptation than what other agencies faced.

Methodology Spotlight: National Center for Education Statistics (NCES) Data Collection Changes

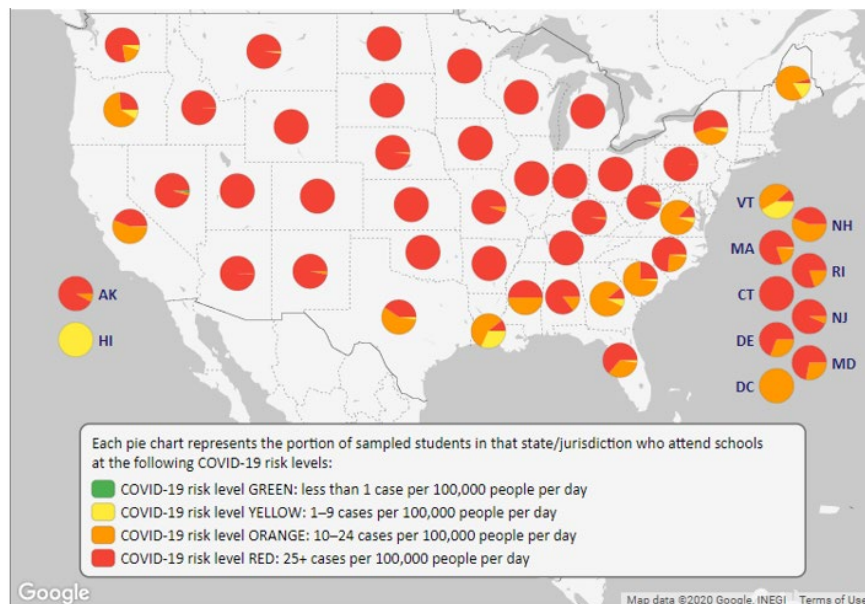
Changes made at NCES because of the pandemic were driven by two factors. One was that schools abruptly closed for an extended period of time. Second was that many or most schools when reopened were mostly or all remote learning.

Collection of data was severely impacted by the closures. Collection windows had to be extended for some survey items in order to account for the logistical challenges of operating during the pandemic. In some schools, records that were needed to report accurately were inaccessible, others where in-person data collection was needed could not be done, and collection had to be halted and the window compressed to match the time span of collection that had actually been completed.

Data that were obtained will require substantial caveating to provide proper context to users. For example, data on discipline incidents and reports of bullying at school will likely be much lower because kids are less likely to be disciplined in a remote learning environment than in a physical school setting. At-school bullying cannot occur if kids are not at school, but there may be an uptick in the reporting of cyber bullying.

Going forward, there will be carry-on impacts on population frames. Gathering representative samples in situations where schools or even entire states are unable to respond will be a serious challenge. At the same time as population data gathering is inhibited, there might be a large change in the population data, such as shifts of students to private schools and/or to distance learning. These kinds of shift will almost certainly not be at random, as families of poor students are less able to make these changes than higher socio-economic status families. And since socio-economic status is strongly correlated with race/ethnicity, these shifts will be disproportionate by race/ethnicity, too.

Current COVID-19 Risk Levels and Impacts on the 2021 National Assessment of Education Progress (NAEP) Sample



Note. 2021 NAEP Grade 4 sampled students are shown; Grade 8 is similar. COVID-19 risk level framework from “Harvard Global Health Institute Key Metrics for COVID Suppression.”

Source. National Center for Education Statistics, NAEP 2021 data collected from sampled schools, November 17, 2020.

Chart available at: https://nces.ed.gov/whatsnew/commissioner/remarks2020/11_25_2020.asp.

Methodology Spotlight: Bureau of Labor Statistics (BLS) Changes in Telework and Stability Assumptions

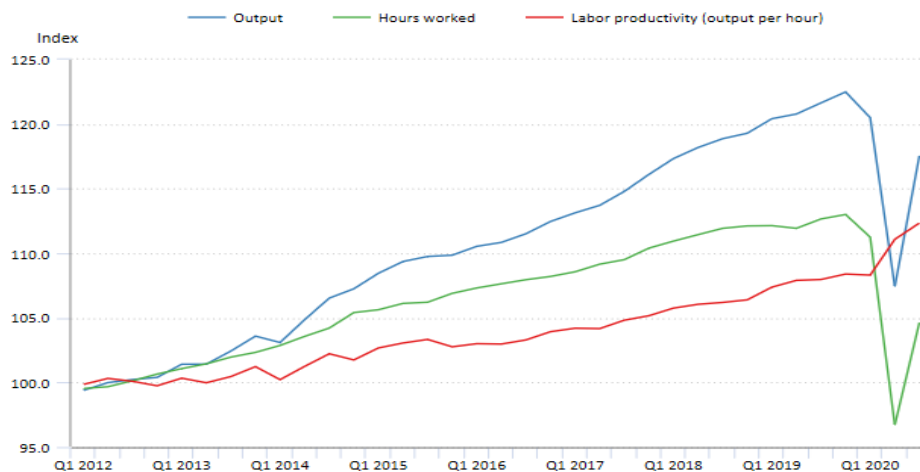
Changes at BLS because of the pandemic were driven by two factors. One was the need to create processes and systems for 100 percent telework for surveys that handle embargoed data. Second was the need to change stability assumptions for employment measures following the state-mandated lockdowns.

BLS had expanded its telework capabilities for many years, but it had not performed the production of a Principal Federal Economic Indicator (PFEI) entirely remotely. By good fortune, a pilot test for producing PFEI statistics remotely was undertaken in January of 2020, in anticipation of inclement weather and expanded telework. Beginning in March, this pilot became the standard operating posture with the move to telework.

The unparalleled decline in employment between March and April 2020 required BLS to examine and revise some of the stability assumptions about employment, hours, and earnings. In the Current Employment Statistics (CES) program, the assumption that the overwhelming majority of employment change due to business openings and closures is largely offsetting, with a small predictable residual, had to be removed from the estimation process. This required revising other methodologies impacted by relaxing that assumption, as well as the adaptation and construction of new systems to implement the changes.

The swiftness of the decline, and the timing of its bulk occurring in between monthly estimation of employment numbers, also required altering the methodology used to produce quarterly productivity estimates. CES reports once a month for the pay period that includes the twelfth, while productivity is calculated on a quarterly schedule. Normally, the employment level input into productivity is held constant from the last CES report to the end of the quarter under usual stability assumptions. To capture the impact of the shutdown on the last weeks of March, BLS requested and was provided initial unemployment insurance claims records from state offices, which were blended with regularly collected data to calculate estimates of weekly decline between the week of March 12 and April 1. These and related data were shared with the Bureau of Economic Analysis and the Federal Reserve Board, as the agencies worked together to ensure consistent economic statistics.

**Labor Productivity (Output Per Hour), Output, and Hours Worked Indexes,
Nonfarm Business (2012 = 100), 2020Q3**



Source: U.S. Bureau of Labor Statistics. Chart available at: <https://www.bls.gov/charts/productivity-and-costs/nonfarm-business-sector-indexes.htm>.

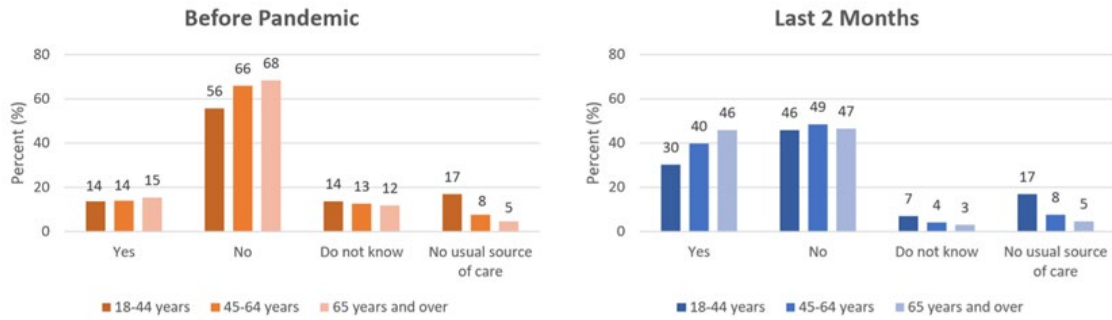
**Methodology Spotlight: National Center for Health Statistics (NCHS)
Timely, Pandemic-Related Statistics**

Changes at NCHS because of the pandemic were driven by two factors. One was the need for new pandemic-related statistics. Second was the need for data to be released on a rapid, nearly flow basis.

NCHS repurposed the existing Research and Development Survey (RANDS) to collect COVID-19 health information and release some experimental estimates. This survey’s enrolled panel began answering questions specific to the pandemic, such as telehealth use, quarantine behavior, and loss of work due to illness. Additionally, NCHS collaborated with the Census Bureau to add COVID-19 related questions to the new Pulse surveys, as well as worked with them to move the National Health Interview Survey (NHIS) to a phone-based interview system. The conversion to phone-based interviews allowed NHIS data collection to continue despite lockdown restrictions.

NCHS dramatically accelerated the input of death counts in the National Vital Statistics system. NCHS began accepting and publishing preliminary reports from states on a daily basis. NCHS was able to accelerate the release process so that nearly all mortality data were reported with no more than a two-week lag.

**Telemedicine Access by Age Group:
Telemedicine Access Varied by Age Group Before the Pandemic and in the Last Two Months**



Source. National Center for Health Statistics, Research and Development Survey (RANDS) During COVID-19, 2020. Chart available at: <https://www.cdc.gov/nchs/data/covid19/RANDS-COVID-19-webinar-slides.pdf>.

Section C. Product Innovations

Summary

This section presents information on products that ICSP agencies have created or significantly modified in response to the outbreak, including identifying lessons learned that can be used to enable future innovations in statistical processes, procedures, and products; categorizing the types of new products and services that were developed; cataloging the characteristics of the innovations and the organizational changes required to produce them; and spotlighting specific examples.

Key Takeaways

Crisis is an opportunity. The pandemic has presented statistical agencies with unparalleled circumstances through which to develop new products and services in a rapid-fire environment with accelerated feedback loops. Statistical agencies have embraced this opportunity to innovate in ways that meet the emerging needs of the American public. In general, new products and services have addressed two main categories of needs—(1) the need for more timely and detailed data to analyze the pandemic’s effects on different geographies, sectors, groups, or types of activities and (2) the need for new mechanisms for collecting, processing, and reporting information related to pandemic response and for monitoring agency operations. These innovations underscore a shift in priorities between timeliness and accuracy. Especially when confronted with rapidly changing conditions, like those presented by the COVID-19 crisis, decision-makers often value prototype or experimental estimates today over more precise statistics tomorrow. ICSP agencies are planning to continue most of their innovations related to the pandemic, some indefinitely and others for an uncertain or limited amount of time. In addition, the data systems, analytical tools, technologies, and partnerships harnessed in response to COVID-19 lay a strong foundation for future innovations.

Communication impacts everything. The effectiveness of U.S. statistical agencies hinges on public trust in the government’s datasets. The uncertainties of the pandemic have only heightened the need for timely, transparent communication around these statistical offerings. ICSP agencies are addressing these concerns by (1) tapping new sources of information, like new surveys, additional survey questions, and “big” datasets, to report on the impacts of the pandemic; (2) harnessing technology and data tools, such as machine learning, artificial intelligence, and passive data collection, to gather, process, and push out more data, faster; and (3) leveraging a wide range of communications mechanisms, for example, dedicated webpages, research papers, and briefings, to reach diverse audiences. Communication is a critical ingredient to success through every part of the innovation process, as statistical agencies identify problems, evaluate and implement solutions, build staff buy-in, roll out new products and services, and gather feedback from stakeholders.

Get creative with resources. Statistical agencies are casting a wide net for pulling in the resources they need to deliver timely, relevant, and high-quality products and services. For example, to build up the staff time and expertise necessary for developing innovations in response to the pandemic, ICSP agencies added personnel through employee details, new hires, and contracts; empowered leaders to establish new working groups; and collaborated with other agencies and private-sector organizations. In addition, agencies leveraged myriad new data sources and applications, including timelier snapshots of existing datasets, new information from administrative and private sources, and new surveys and

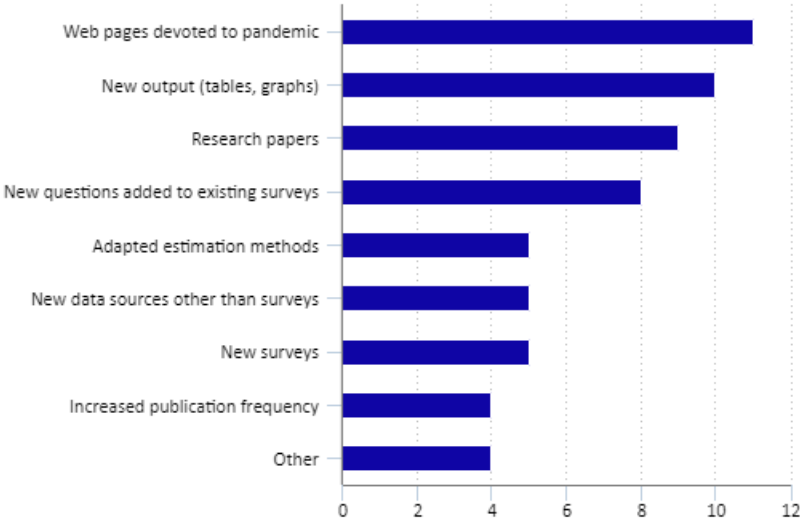
questions. Agencies supported these personnel, partnerships, and data resources with new and expanded IT tools, such as cutting-edge platforms for virtual meetings, additional user licenses, new hardware and mobile devices, and expanded server space. Many of the recent statistical and technological innovations would not have been possible without existing relationships with colleagues throughout government and the private sector and prior investments in IT systems and data science tools.

Survey Response Overview

About 80 percent of respondents (14 out of 17) indicated that they developed product innovations related to COVID-19. The innovations fell into two main groups:

- The top tier with 8–11 responses includes: webpages devoted to the pandemic, new output like tables and graphs, research papers, and new questions added to existing surveys.
- The bottom tier with 4 or 5 responses includes: adapted estimation methods, new sources other than surveys, new surveys, increased publication frequency, and “other” new or enhanced products or services, like using new technologies to answer questions related to COVID-19 and expanding the number of explanatory materials included with statistical releases.

Which of the following new or enhanced products or services has your agency developed in response to the pandemic? (Choose all that apply)



Survey Response Details

This section provides information on the 28 specific innovations described by the survey respondents. Table C1 looks at four new products or tools to give a flavor of the responses. Table C2 summarizes the characteristics of all the reported innovations. Finally, three “Innovation Spotlights” call out new, publicly available products—the Census Bureau Household Pulse Survey, Bureau of Economic Analysis (BEA) near real-time consumer spending statistics, and Economic Research Service (ERS) COVID-19 online resources—to show how all of these considerations come together. These spotlights include lessons learned around the themes of the power of partnerships, the promise of big data, and the possibilities of new presentations.

Table C1. Innovations Related to COVID-19: A Peek at the Results

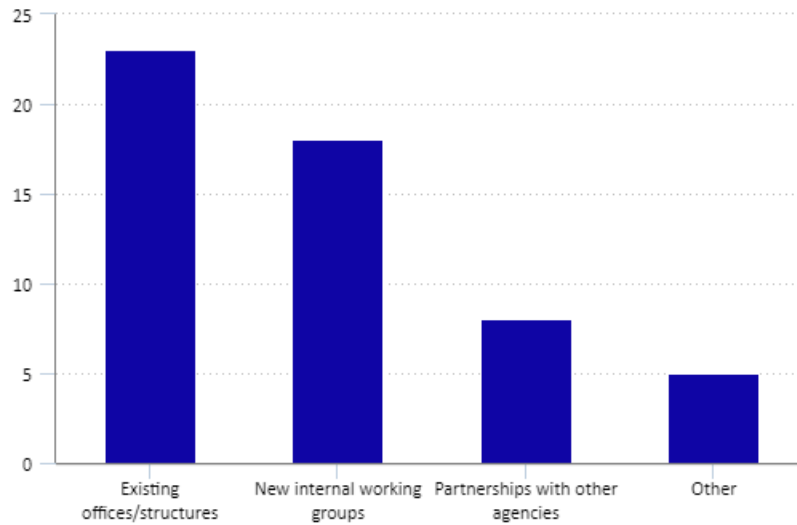
Description	Need or problem	How the innovation addressed the need or problem	Additional resources needed	Major obstacles to development or implementation	Assessment and communication of innovation quality
Bureau of Justice Statistics (BJS): Added survey questions on pandemic impacts	Dearth of information on the impact of COVID-19 in correctional facilities, as well as related to law enforcement activities	Added questions to the 2020 Census of Jails, the National Prisoner Survey, and the Law Enforcement Management and Administration Survey	OMB clearance and changing survey instruments and census forms	Finding the right questions, the right burden, the best way to approach the questions	Assessed by the management team and staff at BJS; one (of the three) updated surveys has made it through OMB clearance
Department of Veterans Affairs: Palantir technologies	Need to answer key analytical questions related to COVID-19	Links department’s data (enterprise level) with key analytical questions	Three mid-level leaders to oversee communities of practice, contractors to provide expertise on the tool, trainers for staff after contractors depart	Resistance from a culture adverse to doing things differently—was able to show some early successes, which garnered support from key leaders	Counted the key questions that could be answered using the new tool that leadership thought were impossible to answer previously
IRS Statistics of Income: Worked with IRS researchers to pair artificial intelligence and Optical Character Recognition (OCR) with manual editing to produce data on two small business relief programs	Businesses filled out IRS Form 7200 and faxed it to the IRS to request advance payments of COVID-19 tax credits. Due to the poor quality of some faxed images, traditional OCR did not result in usable data on program participants.	Machine learning plus OCR improved data extraction by reducing noise from form design and blurry images; advanced data editing application allowed for corrections; embedded tests enforced formatting; regular data samples were pulled for quality review	Data scientists developed the OCR process; computer programmers developed a database and application for perfecting the data; SOI field staff were engaged to perform the data editing	Poor quality of faxed source documents; fillable form did not include features to enforce business rules or standardize data values (some filings included commas, decimals, or alpha characters in numeric fields)	Provided briefings to IRS leaders, as well as recommendations for improving the process for collecting administrative data to better support downstream data and analytical uses
USDA National Agricultural Statistics Service: Virtual briefings	Provide briefings on principal federal economic indicators to the Secretary of Agriculture or his representative	Allowed for social distancing while buildings were mostly closed	Virtual meeting technology	In-person report briefings included the public and USDA officials. Since USDA officials are under a 1-hour embargo following releases, a virtual briefing process had to be created to address USDA officials before the public could attend the briefings.	TBD (ongoing)

Table C2. Innovations Related to COVID-19: Summary of Characteristics

Need or problem	How the innovation addressed the need or problem	Additional resources needed	Major obstacles to development or implementation	Assessment and communication of innovation quality
<p>Better data: The need for more timely, detailed, and coordinated data to analyze the pandemic’s effects on different geographies, sectors, groups, or types of activities</p> <p>New tools: The need for new mechanisms for collecting, processing, and reporting information related to pandemic response and for monitoring agency operations</p>	<p>New information sources: Launching new surveys, adding questions to existing surveys, studying alternative data sources, and synthesizing datasets in new ways to provide timely, detailed insights into the impacts of the coronavirus crisis</p> <p>Technology and data tools: Harnessing machine learning, artificial intelligence, passive data collection, and mobile devices to streamline operations, simplify data acquisition, and speed up processing</p> <p>Vast communications mechanisms: Leveraging webpages dedicated to the impacts of COVID-19, new analytical and explanatory materials, new working groups, and virtual briefings to reach diverse audiences and support operations during the pandemic</p>	<p>Staffing: Increased work time, additional personnel (staff detailed from other parts of the agency, new hires, and contractors), empowering leaders to stand up new working groups</p> <p>Outside technical expertise: Through partnerships with other agencies, coordination with other divisions within the agency, and collaborations through new and existing contractual relationships</p> <p>New and expanded IT tools and support: New platforms for virtual meetings, additional user licenses, new hardware, expanded server space</p> <p>Approvals and funding: OMB clearance, survey changes, additional funding</p> <p>Reallocation of resources: From other work areas and projects within the agency</p>	<p>Data: Lack of timely, complete data; proprietary restrictions; inconsistent reporting cycles; need for new revisions policy; poor quality of data source materials; determining which data items could be collected reliably with lower respondent burden; evaluating and reporting data limitations</p> <p>Internal processes: Moving from research to active production; frequent changes to data recording and processing; developing customized tools and new ways of communicating; slow start-up, development, and implementation periods; increased workloads</p> <p>Administration: Securing funding, rapid procurement, product clearance, slow review process</p> <p>Agency culture and staff skills: Resistance to rapid changes, gaining buy-in, training on new systems and products</p> <p>External communications: Increasing awareness, disseminating information to key stakeholders</p>	<p>Validation: Pull data from reliable sources, use existing technology and platforms with known quality, verify against other datasets, apply automated rules to test for mathematical and logical consistency, compare questions that could be answered before/after innovation, internal/manual review, OMB clearance</p> <p>Communication/feedback mechanisms: Research papers, release notes, technical notes, dedicated webpages, webinars, web notes, emails, Twitter feeds, advisory committees, user groups, briefings, training sessions, partner phone calls, internal communications</p> <p>Data descriptions: Publish details on data and limitations, flag data as experimental or preliminary, provide standard errors, recommend ways to improve data collection and other processes going forward</p> <p>TBD: Uncertain, ongoing, in progress, carry out more complete evaluation in the future</p>

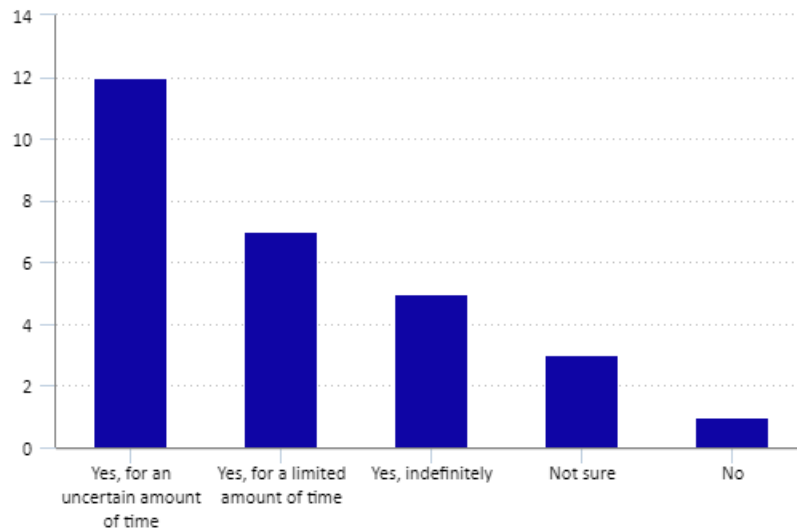
Respondents indicated that, for most innovations, they relied on existing offices or structures or new internal working groups. To a lesser extent, agencies leveraged partnerships with other agencies and “other” structures, such as new and existing contracts and partnerships with other operating divisions within the same agency and with international and local teams.

What organizational structures did you use to implement the innovation?



Respondents noted that they intend to continue the vast majority (all but four) of these innovations; although, most of the innovations will continue for an uncertain or limited amount of time. Five of the innovations will continue indefinitely.

Do you plan to continue the innovation?



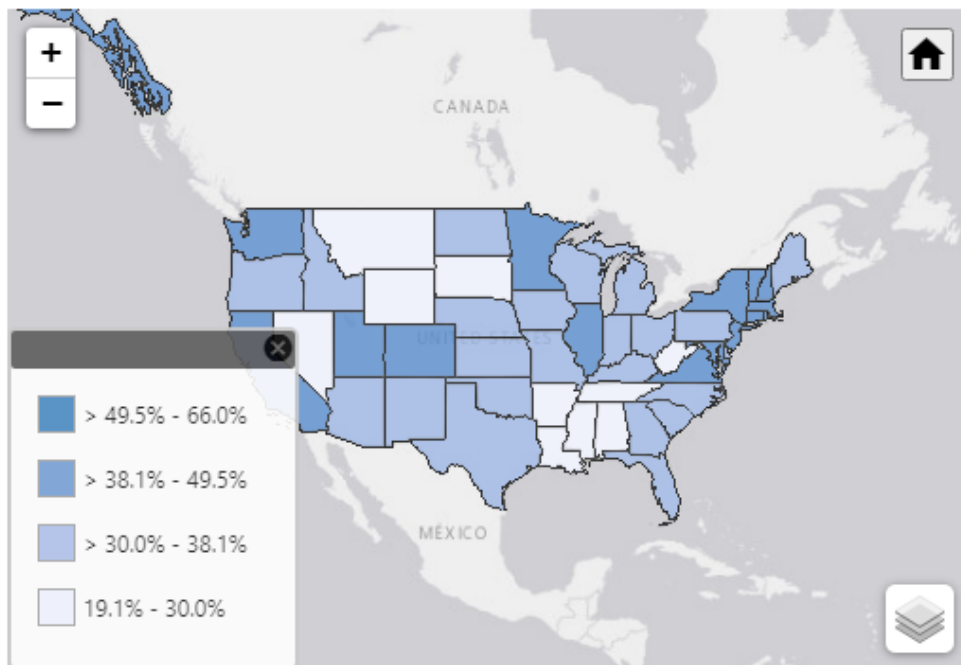
Innovation Spotlight: Census Bureau Household Pulse Survey

Description. The Household Pulse Survey is designed to deploy quickly and efficiently collect data on how people’s lives have been impacted by the coronavirus pandemic. The survey asks questions about how education, employment, food security, health, housing, social security benefits, household spending, stimulus payments, and transportation have been affected by the ongoing crisis. The Census Bureau disseminates datasets for the national and state levels and for the 15 largest metropolitan statistical areas in near real-time through an interactive data tool. These statistics help federal and state officials direct aid, assistance, and support to the people and places that need it most.

Lesson Learned—the Power of Partnerships. The Household Pulse Survey provides information that cannot be collected elsewhere and reflects content provided by the Census Bureau in partnership with several federal agencies, including the USDA Economic Research Service, the Bureau of Labor Statistics, the National Center for Health Statistics, the National Center for Education statistics, the Department of Housing and Urban Development, the Social Security Administration, and the Bureau of Transportation Statistics. Without input and financial support from its agency partners, the Census Bureau would not be able to provide this timely and relevant resource for understanding the economic and social consequences of the pandemic.

Telework:

Percentage of adults living in households where at least one adult has substituted some or all of their typical in-person work for telework because of the coronavirus pandemic, November 11–November 23, 2020

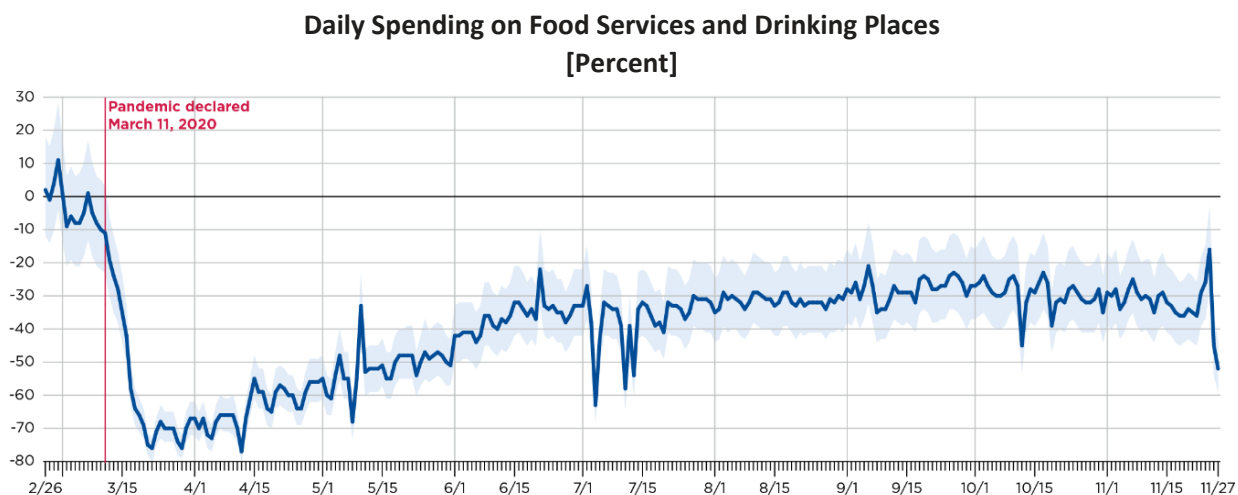


Source. U.S. Census Bureau, Household Pulse Survey, Week 19. Chart available at: <https://www.census.gov/data-tools/demo/hhp/#/?measures=TWR>.

Innovation Spotlight: Bureau of Economic Analysis (BEA) Near Real-Time Consumer Spending Statistics

Description. Since the emergence of COVID-19, changes to the U.S. economy have increased policymakers' need for more frequent and timelier economic data. BEA economists are researching the use of daily feeds of credit card data as an early barometer of consumer spending in the United States. This dataset gives BEA the opportunity to analyze shifts in spending trends before traditional data sources become available. For example, the data verified that consumer spending in the early part of March 2020 was largely on trend before falling off precipitously in the latter half of the month once stay-at-home orders were put in place. Initial results of this study were released in a research paper in April 2020, and the work is updated approximately every two weeks on [bea.gov](https://www.bea.gov).

Lesson Learned—the Promise of Big Data. For the last few years, BEA has been exploring ways to use “big” data—like the credit card transactions dataset—and data science tools to extend, enhance, and supplement its official economic statistics. BEA was able to expand on this earlier work to stand up research on the impacts of the outbreak in a short timeframe thanks, in large part, to prior investments in IT systems and existing contracts used to acquire the data. The success of projects like this ultimately relies on the bureau's commitment to transparency. For example, the credit card data may misrepresent e-commerce transactions and distort overall spending patterns as consumers shift away from cash to paperless transactions during the pandemic. By evaluating such data limitations and clearly communicating them to the public, BEA guides users on how best to interpret and apply new data products.



Note. Chart shows the difference from the typical level of spending without COVID-19 changes in the economy. The typical level corresponds to a value of zero. The shaded area represents 95 percent confidence interval bands.

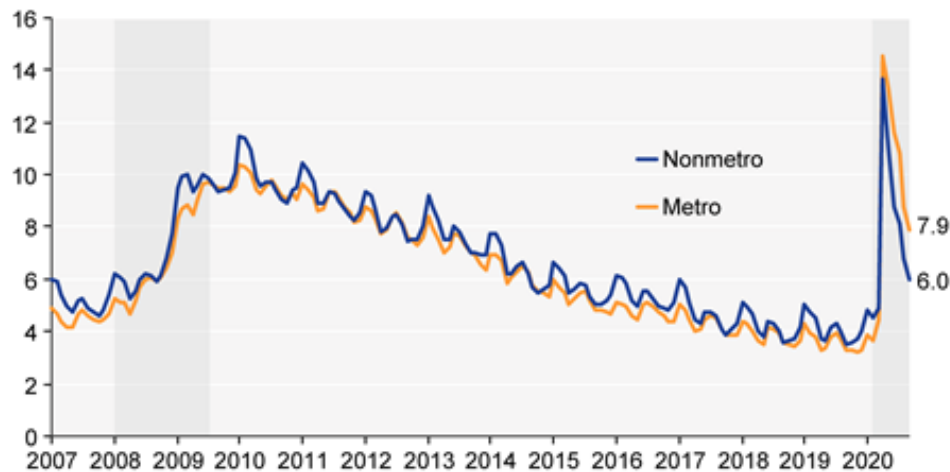
Source. U.S. Bureau of Economic Analysis, COVID-19 and Recovery: Estimates from Payment Card Transactions, updated December 2, 2020. Chart available at: <https://www.bea.gov/recovery/estimates-from-payment-card-transactions>.

Innovation Spotlight: Economic Research Service (ERS) COVID-19 Online Resources

Description. ERS launched the “COVID-19 Economic Implications for Agriculture, Food, and Rural America” webpage and related topic pages to highlight its research and supporting data that can help interpret and understand the emerging economic impacts of the pandemic. The ERS research program considers links in the farm-to-consumer supply chain that may be affected by the pandemic, including farms, processors, handlers, retail outlets, and trade. In addition, ERS examines the economic effects of the pandemic on consumers, food assistance program participants, residents of rural America, and farmers. These webpages are updated regularly as more information becomes available.

Lesson Learned—the Possibilities of New Presentations. The ERS COVID-19 online resources provide a convenient portal for linking pandemic-related research and datasets with existing government statistics. For example, the topic page on the pandemic and rural America shows county-level evidence on the prevalence of COVID-19 and local unemployment rates, giving users an indication of the spread of the virus and ensuing economic recession across America. Existing datasets, such as monthly local area unemployment statistics from the Bureau of Labor Statistics, provide new insights when considered in the context of evolving events, like the coronavirus crisis.

**U.S. Monthly Unemployment Rates in Metro and Nonmetro Areas,
January 2007 to September 2020**
[Percent]



Note. Data are not seasonally adjusted. Unemployment rate estimates for September 2020 are preliminary. Shaded area indicates recession period.

Source. USDA, Economic Research Service using data from U.S. Department of Labor, Bureau of Labor Statistics, Local Area Unemployment Statistics Program, accessed October 29, 2020. Chart available at: <https://www.ers.usda.gov/covid-19/rural-america/>.